PEB-7600VG2A
Intel LGA 775 Pentium 4
Mini ITX Main Board

Quick Installation Guide

Note :

(1)Memory type support dual-channel interleaved mode assuming DDR 400 MHz, all DIMMs in a system must be of the same type, the speed in all channels is the speed of the slowest DIMM in the system.

(2)The Power Supply must be support Ver 2.2 or Ver 2.3 or high version.

Chapter 1   Hardware Configuration Setting

This chapter gives the definitions and shows the positions of jumpers, headers and connectors. All of the configuration jumpers on PEB-7600VG2A SERIES are in the proper position. The default settings shipped from factory are marked with an asterisk (★).

2.1 Jumpers

In general, jumpers on the Mini ITX are used to select options for certain features. Some of the jumpers are designed to be user-configurable, allowing for system enhancement. The others are for testing purpose only and should not be altered. To select any option, cover the jumper cap over (SHORT) or remove (NC) it from the jumper pins according to the following instructions. Here, NC stands for "Not Connect".

2.2 Connectors

I/O peripheral devices will be connected to the interface connectors in (Figure 2-2) PEB-7600VG2A SERIES Connector Locations.
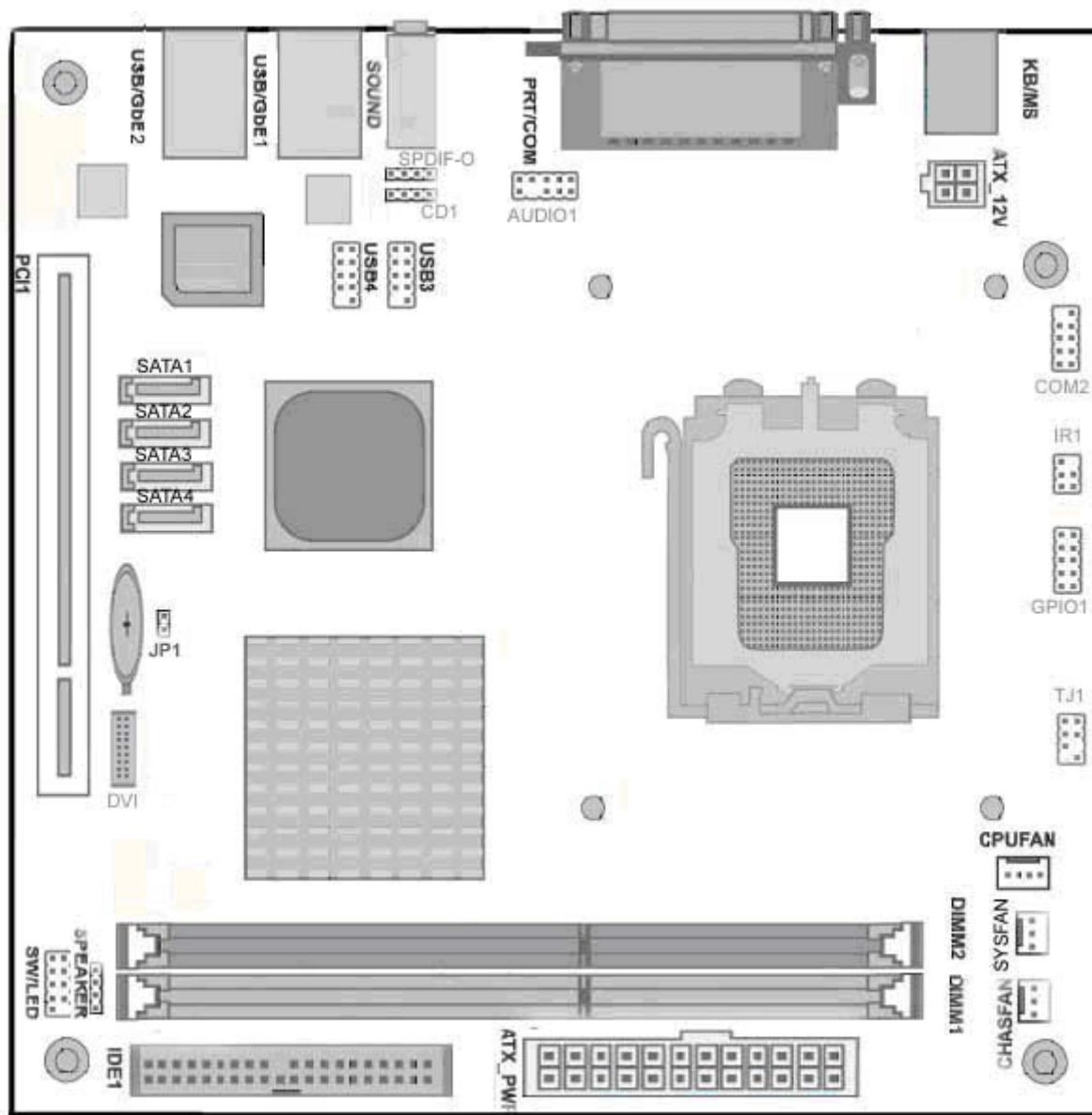
Figure 2-2 PEB-7600VG2A SERIES Connector Locations

CONNECTOR	FUNCTION	REMARK
PANEL1 1-3	IDE1 active indicator	
PANEL1 2-4	System Power On LED	
PANEL1 6-8	System Power on Switch	
PANEL1 5-7	System reset	
VGA	DUB-15 port	VGA connector
DVI	DF13-20DP	Hirose:DF13-20DP
SPK1	External speaker interface	
IDE1	IDE1 (Primary) interface	
PWR1	24-PIN ATX Power connector	
PWR2	PW-4P2R Power connector	For CPU Power
COM1	COM1 serial port	COM1 connector
COM2	COM2 serial port	2x5 shrouded header
PRT1	Parallel port connector	Printer connector
USB1	USB 2.0 port 1	USB1LAN1 connector
USB2	USB 2.0 port 2	USB1LAN1 connector
USB3	USB 2.0 port 3	USB2LAN2 connector
USB4	USB 2.0 port 4	USB2LAN2 connector
USB5	USB 2.0 port 5	USB3 connector
USB6	USB 2.0 port 6	USB3 connector
USB7	USB 2.0 port 7	USB4 connector
USB8	USB 2.0 port 8	USB4 connector
SPDIF I/O	SPDIF I/O interface	1x4 shrouded header
AUDIO1	AUDIO interface	2x5 shrouded header
CD1	CD-in from CD-ROM	1x4 shrouded header
IR1	IR interface	2x3 shrouded header
GPIO1	GIOS interface	2x5 shrouded header
KBMS1	PS/2 keyboard & mouse connector	Double deck connector
SATA1	Serial ATA interface	SATA connector
SATA2	Serial ATA interface	SATA connector
SATA3	Serial ATA interface	SATA connector
SATA4	Serial ATA interface	SATA connector
TJ1	For procreation test	2x4 shrouded header

## 2.2.1 RTC CMOS Clear Jumper Setting (JP1)

OPEN: Normal operation★
SHORT: Clear CMOS contents

2.2.2 System Reset (PANEL1 5-7)

PIN No.	Signal Description
7	Reset
9	Ground


```
HD LED (+)      ●○  Power LED (+)
HD LED (-)      ○○  Power LED (-)
Reset Control (-) ○○  Power Button (+)
Reset Control (+) ○○  Power Button (-)
NC              ○    NC
        SW/LED
```
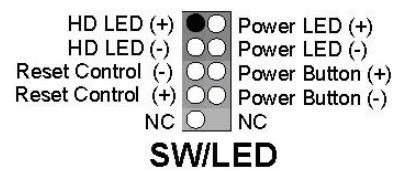
2.2.3 IDE1 active indicator (Panel1 pin #1-3)

PIN No.	Signal Description
1	+5V (Pull-up for HDD LED)
3	HDD active# (LED cathode terminal)

2.2.4 ATX Power Button (PANEL1 6-8)

PIN No.	Signal Description
6	Power button control signal
8	Ground

2.2.5 External Speaker (SPK1)

PIN No.	Signal Description
1	Signal
2	NC
3	Ground
4	+5V

2.2.6 ATX Power Connector (PWR2)

PIN No.	Signal Description
1	12V_Power
2	Ground
3	12V_Power
4	Ground
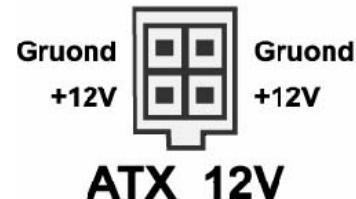
2.2.7 ATX_24P2R Power Connector (PWR1)

PIN No.	Signal Description
1	+3.3V
2	+3.3V
3	Ground
4	+5V
5	Ground
6	+5V
7	Ground
8	PW_OK
9	+5V SB
10	+12V
11	+12V
12	+3.3V
13	+3.3V
14	-12V
15	Ground
16	PS ON
17	Ground
18	Ground
19	Ground
20	-5V
21	+5V
22	+5V
23	+5V
24	Ground
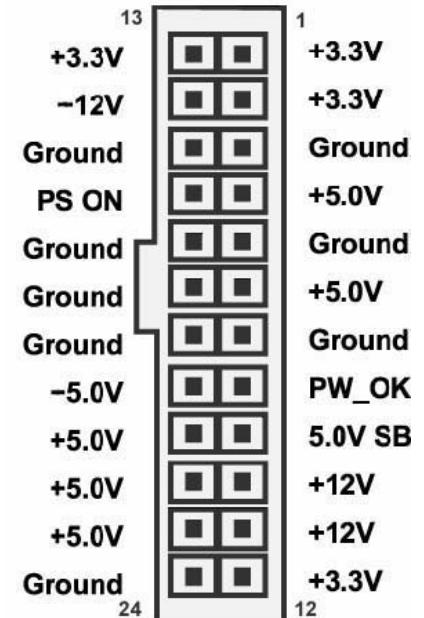
2.2.8 COM1/COM2 Interface

| PIN No.	Signal Description
1	Data Carrier Detect
2	Received Data
3	Transmit Data
4	Data Terminal Ready
5	Ground
6	Data Set Ready
7	Request To Send
8	Clear To Send
9	Ring Indicator
10	Not used

4
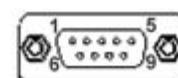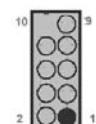
2.2.9 External USB3 & USB4 (USB2.0)

This mainboard provides 2 USB headers on the board allowing for 4 additional USB ports. To make use of these headers, you must attach a USB bracket/cable with USB ports (some models will come packaged with a USB 4-port bracket-cable). The optionally packaged bracket will have two connectors that you can connect to the headers (USB1, USB2). The other end (bracket containing the USB ports) is attached to the computer casing.
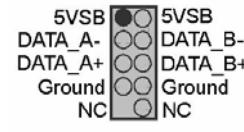
Note :
If you are using a USB 2.0 device with Windows 2000/XP, you will need to install the USB 2.0 driver from the Microsoft® website. If you are using Service pack 1 (or later) for Windows® XP, and using Service pack4 (or later) for Windows® 2000,you will not have to install the driver.

2.2.10 USB & (Gb) LAN Connectors: USB/ Gb LAN 1&2

This mainboard comes with 4 USB ports and a Gb/s LAN port. The USB connectors are used to attach to keyboards, mice and other USB devices. You can plug the USB devices directly into this connector. The LAN connectors can be attached directly to a network.

Pin	Signal Description	Pin	Signal Description
1	TX+	5	NC
2	TX-	6	RX-
3	RX+	7	NC
4	NC	8	NC
Pin	Signal Description	Pin	Signal Description
1/5	+5 V (fused)	3/7	USBP0+/P1+
2/6	USBP0-/P1-	4/8	Ground
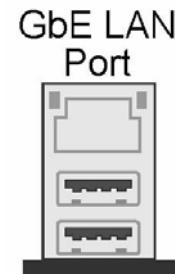
2.2.11 SATA1-4 (Serial ATA connector)

These SATA connectors (SATA1 – SATA4) support Serial ATA 150. Each SATA connector can only support one serial ATA device. **Note**: With most storage devices, there is a power cable that you need attach to a power source (power supply).

## 2.2.12 Audio Port Connectors: Sound

PIN No.	Signal Description
1	SPO
2	VCC5
3	NC
4	GND
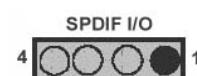
2.2.12.1 Audio in

PIN No.	Signal Description
1	CD-L
2	CD-GND
3	CD-GND
4	CD-R
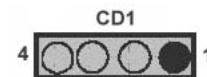
2.2.12.2 Audio external for chassis

PIN No.	Signal Description
1	F_MIC1
2	GND
3	F_MIC2
4	VCC5
5	LOUTR
6	F_R
7	NC
8	NC
9	LOUTL
10	F_L

2.2.12.3 Audio Jack

PIN No.	Signal Description
1(Blue)	Lin-in
2(Green)	Speak-Out
3(Red)	MIC-in
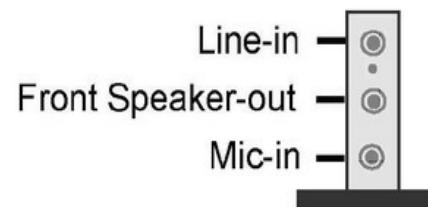
2.2.13 CPU FAN

PIN No.	Signal Description
1	Ground
2	+12V
3	RPM signal
4	Control
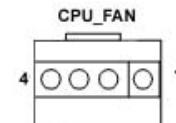
2.2.14 Chas_FAN / SYS_FAN

PIN No.	Signal Description
1	Ground
2	+12V
3	RPM signal
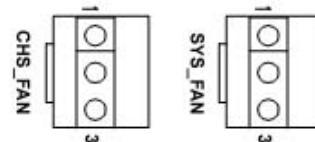
2.2.15 Standard IrDA (KEY)

PIN No.	Signal Description
1	NC
2	Not Used
3	+5V
4	Ground
5	IRTX
6	IRRX
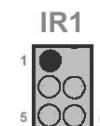
2.2.16 PS/2 Keyboard & Mouse(KBMS1)

PIN No.	Signal Description
1	Keyboard Data
2	Mouse Data
3	Ground
4	+5V
5	Keyboard Clock
6	Mouse Clock
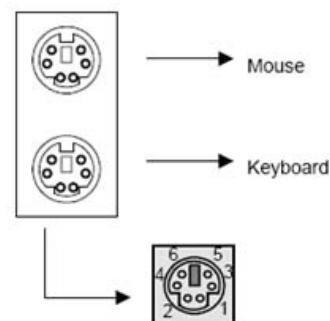
2.2.17 VGA D-SUB15 Connector

PIN No.	Signal Description
1	Red Signal
2	Green Signal
3	Blue Signal
4	NC
5	GND
6	GND
7	GND
8	GND
9	VCC
10	GND
11	NC
12	DCC_DATA
13	HSYNC
14	VSYNC
15	DCC_CLK
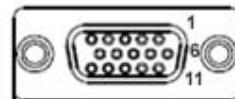
2.2.18 VGA DVI Connector

Signal	PIN		Signal
TDC0#	2	1	VCC5
TDC0	4	3	GND
NC	6	5	NC
NC	8	7	NC
TDC1#	10	9	HPDET
TDC1	12	11	MDVIDATA
NC	14	13	MDVICLK
NC	16	15	GND
TDC2#	18	17	TLC#
TDC2	20	19	TLC
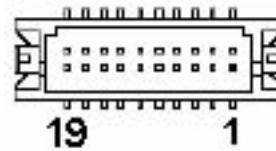
Signal	Type	Signal Description
TDC0,TDC0#	O	**DVI Data Channel 0 Output**: These pins provide the DVI differential output for data channel 0 (Blue).
TDC1,TDC1#	O	**DVI Data Channel 1 Output**: These pins provide the DVI differential output for data channel 1 (Green).
TDC2,TDC2#	O	**DVI Data Channel 2 Output**: These pins provide the DVI differential output for data channel 2 (Red).
HPDET	I	**Hot Plug Detect (internal pull-down)**: This input determines whether the DVI is connected to a DVI monitor. When terminated , the monitor is required to apply a voltage greater than 2.4 volts. Changes on the status of this pin will be relayed to the graphics controller via the P-OUT/TLDET* or GPIO(1)/TLDET* pin pulling low.
TMDSDATA	I/O	**DVI I2C Data**: This signal is used as the I2C DOC clock for a digital display connector (i.e. TV-Out Encoder , TMDS transmitter). This signal is tri-stated during a hard reset.
TMDSDCLK	I/O	**DVI DOC Clock**: This signal is used as the DOC clock for a digital display connector (i.e. primary digital monitor). This signal is tri-stated during a hard reset.
TLC,TLC#	O	**DVI Clock Output:** These pins provide the differential clock outputs to the DVI interface corresponding a data on TDC(0:2) outputs.

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Chapter 2   System Installation

    This chapter provides you with instructions on how to setup your system. The additional information shows you how to install CPU/ FAN and memory .

2.1 Socket 775 Processor

2.1.1 Installing Pentium 4 / Celeron D CPU

    (1). Lift the handling lever of CPU socket outwards and upwards to the other end.

    (2). Align the processor pins with pin hones on the socket. Make sure that the notched corner or

    (3). dot mark (pin 1) of the CPU corresponds to the socket's bevel end. Then press the CPU gently until it fits into place. If this operation is not easy or smooth, don't do it forcibly. You need to check and rebuild the CPU pin uniformly.

    (4). Push down the lever to lock processor chip into the socket.

    (5). Follow the installation guide of cooling fan or heat sink to mount it on CPU surface and lock it on the socket 775.

   (6). Be sure to follow particular CPU speed and voltage type to adjust the jumper settings properly.

Having figured out in general what you get, the next job is to bite the bullet and build your PC

2.1.2 Precautions

When integrating a Pentium 4 processor-based system, be sure to take the proper electrostatic discharge (ESD) precautions. Consider using ground straps, gloves, ESD mats, or other protective measures to avoid damaging the processor and other electrical components in the system.

Warning

Do not touch socket sensitive contacts. Chain tech assumes no responsibility for the potential

damages caused by this action and therefore the warranty we provide may be invalid.

2.1.3 Installing CPU

#1 Disengage Load Lever by depressing down and out on the hook to clear retention tab. Rotate Load Lever to fully open position at approximately 135°

#2 Rotate Load Plate to fully open position at approximately 100°. Remove Socket Protective Cover. With left hand index finger and thumb to support the load plate edge, engage protective cover finger tab with right hand thumb and peel the cover from LGA775 Socket while pressing on center of protective cover to assist in removal.

#3 Locate the two orientation key notches.

#4 Grasp the processor with thumb and index finger. (Grasp the edges without the orientation notches.) The socket has cutouts for your fingers to fit into. Carefully place the package into the socket body using a purely vertical motion.   (Tilting the processor into place or shifting it into place on the socket can damage the sensitive socket contacts.)

#5 Verify that package is within the socket body and properly mated to the orientation keys

#6 Close the socket by

1. Close the Load Plate
2. While pressing down lightly on Load Plate, engage the Load Lever.
3. Secure Load Lever with Load Plate tab under retention tab of Load Lever
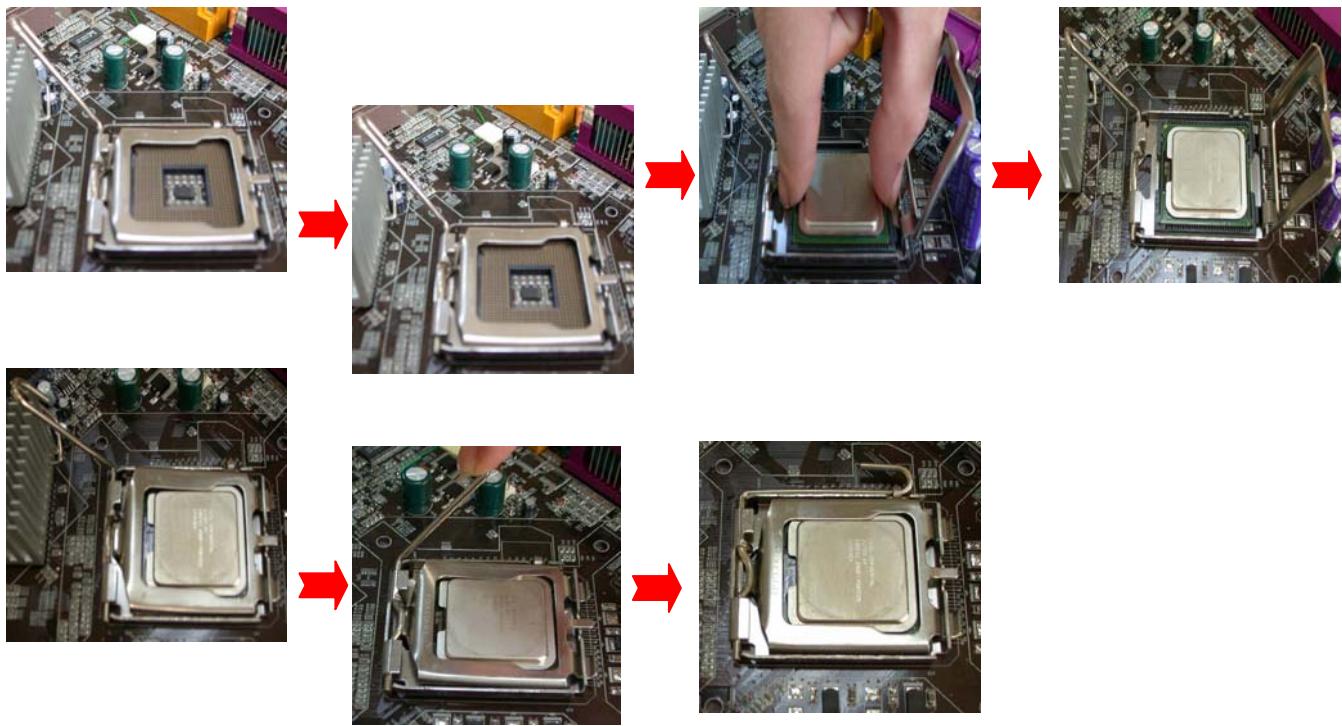
2.1.4 Installing Cooling Fan

Warning
For a safety landing, avoid leaving prongs on hard surface.

Instructions
Smear thermal grease on the top of the CPU. Lower the CPU fan onto the CPU/CPU socket and secure it using the attachments or screws provided on the fan. Finally, attach the fan power cable to the CPUFAN adapter. For more details on this, go to http://www.intel.com

2.1.5 Main Memory

PEB-7600VG2A SERIES provides 2 DIMMs (184-pin Dual In-line Memory Module) to support 2.6V DDRAM (Synchronized DRAM) as on-board main memory. The

maximum memory size is 256B~ 1GB with using 256MB/512MB/1GB technology. Supports up to 2 double sided DIMMs at 266/333/400MHz. The memory architecture adopts 128-bit data interface to support for x8 and x16 DDRAM(DDR1) device width. In addition, it only support Non-ECC memory .

For system compatibility and stability, don't use memory module without brand. You can also use the single or double-side DIMM .The three DIMMs can be out of order. You can install different size of   DDRAM module on DIMM1, DIMM2 or all to boot up system.

Without out the contact and lock integrity of memory module with socket, it will impact on the system reliability. Follow normal procedure to install your DDRAM module into memory socket. Before locking, make sure that the module has been fully inserted into the DIMM slot.

NOTE: **For maintaining system stability, do not change any of DDR memory parameters in BIOS setup to upgrade your system performance without acquiring technical information.**